UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Drawings

1.　　The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "...determining particular pixel locations of said at least one color in each of said second group of scanned documents; and forming a third group of scanned documents not having said particular pixel locations corresponding to said correct pixel locations, and into a fourth group of scanned documents having said particular pixel locations corresponding to said correct pixel locations, so that said scanned documents in said third group being probably counterfeit, and said scanned documents in said fourth group being possibly authentic" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

　　Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Fig. 5 shows the first process of "detecting the out-of-gamut color" to determine if the

bank check is possibly authentic. However, the process is "finished" after the last bank check is

scanned and appears no other processing takes place. The claimed subject matter of claim 6

suggests that the bank checks that are found to be "possibly authentic" (i.e. second group of

scanned documents) are examined once again to determine if the color detected from the

"possibly authentic" bank checks have pixels in the correct locations to further check the

authenticity of the bank checks.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

3.   Claims 13-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the enablement requirement. The claim(s) contains subject matter which was not described in

the specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention. The original disclosure

supports only a statutory hardware system and method with only brief mention that such

hardware system and method may be realized by various software and hardware implemented

combinations (e.g., "The present invention can be realized in hardware, software, or a

combination of hardware and software." Pg. 12 lines 30-31) without any adequate and enabling

disclosure.

Appropriate correction including adequate proof of ownership at the time the invention

was made is required.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 1, 2, 4, 5, 7-9, and 11-16 rejected under 35 U.S.C. 103(a) as being unpatentable

over Douglas U. Mennie et al (US 6721442 B1) in view of Eric R. Lee et al (US 6786954 B1)

and Christian Voellmer et al (US 6439395 B1).

Regarding claim 1, Mennie et al discloses a method comprising:

providing at least one authentic hard-copy document (Fig. 21 "Learn Mode" step 2114),

(Mennie et al US 6721442) color scanning a plurality of candidate documents to form

scanned documents (column 2 lines 66 through column 3 line 3) each having a two-dimensional

array of image pixels for each candidate document (Fig. 22 numerals 2214 and 2216, "X" and

"Y" dimensions);

searching each array for said at least one color ("…processing data corresponding to the

color" at column 3 line 17); and

Mennie et al fails to teach each of said authentic hard-copy document including at least

one mark having at least one color that is out of gamut of a printing device having at least three

ink colors.

Lee et al, in the same field of endeavor of document security using color to determine

authenticity ("The present invention also relates to an ink which can be used for labeling an

object (for example, a document or other object) with identifying markings which can be rapidly

verified as authentic and which are highly resistant to counterfeiting" at column 1 lines 15-19;

Lee), teaches a hard-copy document including at least one mark having at least one color that is

out of gamut of a printing device having at least three ink colors (Column 17 lines 62-67 and

column 18 lines 1-4; Lee).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the method of discriminating authentic documents from counterfeit documents as

disclosed by Mennie et al to utilize the teachings of Lee et al where an authentic hard-copy

includes at least one mark having at least one color that is out of the gamut of a printing device

having at least three ink colors because "high security is desired for creating authentication

marks that will not require that the marks be reproducible by publicly available hardware"

(column 17 lines 62-64; Lee).

Mennie et al fails to disclose or suggest sorting said plurality of candidate documents into

a first group of scanned documents not having said at least one color, and into a second group of

scanned documents having said at least one color, so that said scanned documents in said first

group being probably counterfeit, and said scanned documents in said second group being

possibly authentic.

Voellmer et al, in the same field of endeavor of discriminating counterfeit documents

from authentic documents ("To permit bank notes which the test device detects as being

suspected forgeries or unidentifiable to be sorted out separately as early as possible" at column 2

line 10), teaches sorting a plurality of documents into a first group of scanned documents not

having said at least one color (Documents not having said at least one color (as rejected above

Mennie in view of Lee) are documents found to be counterfeit or forged therefore "Reject pocket

10 disposed in the immediate vicinity of the input pocket is intended for unidentifiable or

suspected counterfeit notes which must be subjected to a check by the operator" at column 3

lines 17-20) and into a second group of scanned documents having said at least one color

(Documents containing said at least one color are documents found to be authentic therefore Fig.

1 numeral 12 (or 13-15 according to currency type) "output pocket") so that said scanned

documents in said first group being probably counterfeit, and said scanned documents in said

second group being possibly authentic.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the method as disclosed by Mennie et al where counterfeit documents are

discriminated from authentic documents to involve the process of sorting the documents

according to authenticity as taught by Voellmer et al to avoid confusion between the two if the

authentic document is to be further examined or determined authentic from the first

determination.

Regarding claim 2, Mennie et al discloses a method as recited [in] claim 1, wherein each

of said pixels has at least three color pixel values (column 2 lines 4-11).

Regarding claim 4, Mennie et al discloses a method as recited [in] claim 1, wherein the

step of providing includes printing using a custom-color ink (see rejection of claim 1).

Regarding claim 5, Mennie et al discloses a method as recited claim 1, wherein the step

of providing authentic hard-copy documents includes providing a plurality of bank checks

(Column 5 lines 51-59).

Regarding claim 7, Mennie et al discloses a method as recited [in] claim 1, further

comprising employing an authentication test taken from a group of authentication tests consisting

of:

gamut color size correspondence;

gamut color location correspondence;

magnetic number correspondence ("The scanhead(s) 70 may perform magnetic, optical

and other types of sensing to generate signals that correspond to characteristic information

received from a bill 44) at column 5 lines 62-65, Mennie and column 29 lines 33-47, Mennie);

checking account pattern-of-use exception;

unexpected presence of ultraviolet fluorescing (column 28 lines 23-32, Mennie);

unexpected presence of thermochromic responding;

unexpected presence of laser resonating inks;

unexpected absence of ultraviolet fluorescing;

unexpected absence of thermochromic responding;

unexpected absence of laser resonating inks; and

any combination of these authentication tests. (If one of the claim limitations is met, then the claim limitation as a whole is met).

Regarding claim 8, Meenie in view of Lee and Voellmer discloses an apparatus performing the method as rejected in claim 1 comprising:

means for providing at least one authentic hard-copy document ("...ultra-high resolution print heads and printers could be custom made..." at column 18 lines 3 and 4, Lee), each said authentic hard-copy document including at least one mark having at least one color that is out of gamut of a printing device having at least three ink colors (see rejection of claim 1);

means for color scanning a plurality of candidate documents in forming a two-dimensional array of image pixels for each candidate document ("...currency handling system 10" at column 30 line 21);

means for searching each array for said at least one color (Fig. 1 numeral 70); and

means for sorting (see rejection of claim 1) said plurality of candidate documents into a first group of scanned documents not having said at least one color, and into a second group of scanned documents having said at least one color, so that said scanned documents in said first

group being probably counterfeit, said scanned documents in said second group being possibly

authentic (see rejection of claim 1 above).

Regarding claim 9, discloses an apparatus as recited [in] claim 8, wherein the means for

providing authentic hard-copy documents includes means for providing a plurality of bank

checks (see rejection of claim 5).

Regarding claim 11, Mennie discloses a method comprising imparting a plurality of

marks onto a hard copy using at least one custom colored ink, and subsequent evaluation of a

scanned and digitized image of said hard copy for the purpose of counterfeit detection (see

rejection of claim 1 above), including the steps of:

providing a hard copy (see rejection of claim 1);

imparting onto said hard copy at least one visible mark using at least one chosen colored

ink, each said marks covering an area of coverage on said hard copy and each area of coverage

having defined position within said hard copy (see rejection of claim 1);

scanning said hard copy to form a digitized image having at least three image planes

(Col. 19 lines 63-67 and Col. 20 lines 1-5), each said image plane being represented by an array

having pixel brightness data for a plurality of pixels, each of said pixels having at least three

color components and having a pixel position (see rejection of claim 2);

examining the pixels of said digitized image corresponding to the at least one said area of

coverage (see rejection of claim 1); and

determining the presence or absence of the expected color in said at least one area of

coverage based on the values of the color components of pixels corresponding to and lying

within said area of coverage (see rejection of claim 1).

Regarding claim 12, Mennie discloses a method as recited in claim 11, wherein said

scanned and digitized image is transaction document (see rejection of claim 5).

Regarding claim 13, Mennie discloses an article of manufacture (Fig. 1, Document

handling system 10) comprising a computer usable medium having computer readable program

code means ("...correlation program stored within the memory 56" column 18 lines 40-45)

embodied therein for causing authentication testing ("...uses full color scanning to discriminate

and/or authenticate a variety of different currencies" at column 2 line 35), the computer readable

program code means in said article of manufacture comprising computer readable program code

means for causing a computer to effect the steps of claim 1 (see rejection of claim 1).

Regarding claim 14, Mennie discloses a program storage device readable by machine

(Fig. 1 numeral 56 memory), tangibly embodying a program of instructions executable by the

machine to perform method steps for authentication testing (see rejection of claim 13), said

method steps comprising the steps of claim 1 (see rejection of claim 1).

Regarding claim 15, Mennie discloses an article of manufacture (Fig. 1 numeral 10)

comprising a computer usable medium having computer readable program code means embodied

therein for causing authentication testing (Fig. 1 numeral 56 containing correlation program.

"...uses full color scanning to discriminate and/or authenticate a variety of different currencies"

at column 2 line 35), the computer readable program code means in said article of manufacture

comprising computer readable program code means for causing a computer to effect the steps of

claim 11 (see rejection of claim 11).

Regarding claim 16, Mennie discloses a program storage device readable by machine

(Fig. 1 numeral 56 memory), tangibly embodying a program of instructions executable by the

machine to perform method steps for authentication testing ("...uses full color scanning to

discriminate and/or authenticate a variety of different currencies" at column 2 line 35) said

method steps comprising the steps of claim 11.

4.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mennie et al in

view of Lee et al and Voellmer et al as applied to claim 1 above, and further in view of John S.

Ligas et al (US 5289547)

Regarding claim 3, Mennie et al discloses a method as recited [in] claim 1.

Mennie et al fails to teach or suggest wherein the step of color scanning includes

employing a colorimeter.

Ligas et al, in the same field of endeavor of document authentication ("The authenticating

method of the present invention may be used to authenticate security documents and other

articles of commerce" at column 2 lines 58-60), teaches employing a colorimeter ("The means

for verification may be by a visual observation or by the use of an instrument such as a

colorimeter" at column 10 line 39).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the method of document authentication as disclosed by Mennie to employ a

colorimeter as taught by Ligas because a colorimeter is a well-known instrument in the art of

image processing for comparing or matching colors.

6.   Claims 6, 10, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Douglas U. Mennie et al (US 6721442 B1) in view of Eric R. Lee et al (US 6786954 B1) and

Christian Voellmer et al (US 6439395 B1) as applied to claim 1 above, and further in view of

Osama M. Alattar (US 2002/0126873 A1)

Regarding claim 6, Mennie discloses a method as recited [in] claim 1, further comprising:

noting correct pixel locations of said at least one color in said authentic document (Fig.

21, numeral 2106. Determining the bill's orientation gives the location information of the indicia

or "color" patch to be sensed as explained in column 43 lines 54-60);

determining particular pixel locations (Fig. 23a numeral 2305) of said at least one color

(see rejection of claim 1 above. The object for determining authenticity is determined to be a

color outside the gamut of a conventional printer); and

forming a third group of scanned documents not having said particular pixel locations

corresponding to said correct pixel locations, and into a fourth group of scanned documents

having said particular pixel locations corresponding to said correct pixel locations, so that said

scanned documents in said third group being probably counterfeit, and said scanned documents

in said fourth group being possibly authentic (see rejection of claim 1 pertaining to document

sorting according to authenticity).

Mennie fails to disclose determining particular pixel locations in each of said second

group of scanned documents.

Alattar, in the same field of endeavor, teaches determining an additional characteristic

from the group of possibly authentic documents ("A detector 34...detects the component colors"

at paragraph [34]. "A signature is determined for a subject spot color based on the color

components" at paragraph [35]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to conduct a second detection operation after detecting a first characteristic of

authenticity as taught by Alattar where the component colors are first detected and a signature is

determined according to the component colors with the method disclosed by Mennie et al in

which documents are discriminated according to authenticity because the additional detection

would provide heightened security for the detection of authentic documents.

Regarding claim 10, Meenie in view of Lee and Voellmer discloses an apparatus as

recited [in] claim 8, further comprising:

means for noting correct pixel locations of said at least one color in said authentic

document ("From the above selections, the system 10 determines what master information to

learn from the bill(s) to be processed in the learn mode" at column 38 lines 37-39);

means for determining particular pixel locations of said color in each of said second

group of scanned documents (The system 10 next determines in step 2305 the lateral position of

the bill in relation to the bill transport path by using the "X" sensors" at column 42 lines 40-43);

and

means for forming a third group of scanned documents not having said particular pixel

locations corresponding to said correct pixel locations, and into a fourth group of scanned

documents having said particular pixel locations corresponding to said correct pixel locations, so

that said scanned documents in said third group being probably counterfeit, said scanned

documents in said fourth group being possibly authentic (Detector as described in claim 6

above).

Regarding claim 17, Mennie discloses a computer program product comprising a

computer usable medium having computer readable program code means embodied therein for

causing authentication testing (Fig. 1 numeral 56 memory), the computer readable program code

means in said computer program product comprising computer readable program code means for

causing a computer to effect the functions of claim 10 (see rejection of claim 10).

Regarding claim 18, Mennie discloses an apparatus for authentication testing (Fig. 1

numeral 10) including means to effect the functions of claim 11 (see rejection of claim 10).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. US 6516078 and US 5638496.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jamares Washington whose telephone number is (571) 270-1585.

The examiner can normally be reached on Monday thru Friday: 7:30am-5:00pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, King Poon can be reached on (571) 272-7440. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                Jamares Washington
                                                Junior Examiner
                                                Art Unit 2625

Art Unit: 2625

JW

KING Y. POON
SUPERVISORY PATENT EXAMINER

August 23, 2007